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Summer 1-2003

### PSYC 523.01: Advanced Research Design

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## Advanced Research Design Psychology 523– Spring 2003

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Class Meetings:  
T 11:10 - 12:30  
W 10:40 - 12:00  
CPC 121

### **Office Hours:**

Tuesday: 1 – 2:30; Thursday: 11:00 – 12:30; & by appointment

### **Course Objective:**

The primary objective of this course is to provide students with an understanding of advanced topics in research design and methods. To achieve this objective, students will read a variety of articles, both empirical and theoretical, and book chapters that deal with design- and methods-related topics. Class format will include lecture, discussion, and student presentations. We will begin with an exploration of issues relating to philosophy of science, reliability and validity. Discussion of specific designs, including experiments and quasi-experiments, will also be included. In addition, we will examine other widely used methodologies, including surveys, qualitative research, and meta-analysis. Finally, we will read and evaluate published articles that utilize methodologies discussed in class. Students who complete this course are expected to demonstrate an understanding of research methods and design issues and to be able to apply that understanding in their own research and in the critical evaluation of the work of others.

### **Readings:**

#### *Required:*

The readings for this course will consist of theoretical and empirical articles, as well as various book chapters. Complete citations for these readings are provided on pages 6-8 of the syllabus. Copies of the readings will be on electronic reserve through the Mansfield Library. These articles can be accessed online at: <http://eres.lib.umn.edu/>

#### *Recommended:*

The following books are not required and will not be covered explicitly in class, but you may find them helpful during the course and throughout your graduate career:

American Psychological Association. (2001). *Publication Manual of the American Psychological Association* (5<sup>th</sup> ed.). Washington DC: APA.

Greenberg, G. & Haraway, M. M. (1998). *Comparative psychology: A handbook*. NY: Garland.

Kendell, P. C., Butcher, J. N., & Holmbeck, G. N. (1999). *Handbook of research methods in clinical psychology* (2<sup>nd</sup> ed.). NY: Wiley.

Keppel, G. (1991). *Design and analysis: A researcher's handbook* (3<sup>rd</sup> ed.). New Jersey: Prentice Hall.

Shadish, W. R., Cook, T. D., & Campbell, D. T. (2002). *Experimental and quasi-experimental designs for generalized causal inference*. Boston: Houghton Mifflin.

**Course Requirements:**

- Readings:** A listing of dates and reading assignments is attached (see Class Schedule). Students are expected to have read the material by class on the day specified. Timely completion of reading assignments will help facilitate class discussion. In addition, exams will be based on the material discussed in class and presented in the readings.
- Class Participation & Attendance:** *Students are required to attend all classes and to participate actively in class discussions.* Keeping up to-date with the readings will be a very important part of your preparation for class and will subsequently impact the quality of your class participation. Note that class participation, including attendance, is part of your final grade.
- Research Proposal Paper & Presentation:** The research proposal paper is to be approximately 15 to 20 pages, **written in APA style**. The paper will include an abstract, literature review, methods section, proposed analyses section, and discussion section. A brief description (1 to 2 paragraphs, but not more than 1 page) of your proposal idea is due on February 12. A preliminary literature search is due on March 5. This search should include specific references; you will turn in a brief summary of each article, including how you will use the reference, and a copy of the first page of each article. For this assignment, you should have a minimum of six articles (certainly, though, for the final paper you will have more than this). On April 8<sup>th</sup> and 9<sup>th</sup> you will present your hypothesis and design to the class for discussion and critique. On April 30<sup>th</sup>, May 6<sup>th</sup>, and 7<sup>th</sup>, you will present your final project to the class. This will be a **formal** presentation (15 minutes to present; 5 minutes for questions), done in convention paper format. Finally, the paper itself is due May 7<sup>th</sup> at the beginning of class.
- Exams:** There will be a mid-term and a final exam for this course. Exams will consist of several broad-based essay questions, which will require you to integrate the material from class and the readings. The exams will be take-home and you will have one week to complete them (Note that this does not mean that they should take that long to complete). You may use your class notes and readings, but NOT each other when completing the exam. *Make-up exams will not be given except in documentable emergency situations.*

**Grading:**

Class participation & attendance	15%	60
Research proposal paper	20%	80
Formal research presentation	15%	60
Exams (2)	2 @ 25% = 50%	2 @ 100 = <u>200</u>
		<b>TOTAL: 400</b>

Letter grades will be assigned based on the following breakdown:

<u>POINTS</u>	<u>GRADE</u>
358 – 400	A (90-100%)
318 – 357	B (80-89%)
278 – 317	C (70-79%)
238 – 277	D (60-69%)
0 – 237	F (0-59%)

**Notes:**

1. March 10 is the last day to drop classes. After that date, no petitions to drop the course will be signed and no Incompletes will be given except in a documentable emergency situation.
2. Students with disabilities are responsible for declaring their disability to the instructor at the beginning of the semester if they require accommodations. Such students are also responsible for arranging for any necessary accommodations with Disability Services for Students. The instructor will work collaboratively with the student and DSS to provide these accommodations.
3. Departmental and University policies regarding Incompletes do not allow changing "Incomplete" grades after one year has passed since the "I" was granted.
4. Cheating will NOT be tolerated and may result in a final course grade of an 'F.'

**Class Schedule**

Tuesday	Wednesday
January 28 Course Introduction	29 Philosophy of Science Betchel (88), chaps. 2 & 3
February 4 Philosophy of Science Doyal & Harris (86)	5 Research Design & Methods Overview Leavitt (01)
11 Reliability Kline (93); DeVellis (91)	12 Validity Shadish et al. (02), chaps. 2 & 3 <b>Proposal Idea DUE</b>
18 Reliability & Validity Mook (83); <sup>+</sup> Calhoun et al. (00)	19 Experimental Design Keppel (91); Hsu (89)
25 Experimental Design & Causal Inference Shadish et al. (02), chap. 1	26 Experimental Design <sup>+</sup> Dunford (00)
March 4 Quasi-Experimentation Reichardt & Mark (98)	5 Quasi-Experimentation <sup>+</sup> Russell & Hutchinson (00) <b>Preliminary Lit. Search DUE</b>
11 Small N Designs Christensen (00); Morgan & Morgan (01)	12 <b>MID-TERM EXAM</b> Due by 12 noon
18 Survey Methods Krosnick (99); Schwarz (99)	19 Survey Methods Patrick et al. (98); O'Neal & Chissom (94); <sup>+</sup> Lemieux et al. (99)
March 24 - 28 Spring Break	
April 1 Qualitative Research Taylor & Bogdan (98); Fischer (94)	2 Qualitative Research Ponterotto & Grieger (99); <sup>+</sup> Falbo et al. (01)
8 <b>Hypothesis &amp; Design Presentations</b>	9 <b>Hypothesis &amp; Design Presentations</b>

Tuesday	Wednesday
15 Developmental Designs Schaie (94)	16 Meta-Analysis Cooper & Lindsay (98); Knight et al. (96)
22 Meta-Analysis *Kleiber & Harper (99)	23 Ethics Bersoff & Bersoff (99); Cieurzo & Keitel (99)
29 Reflections on Methods & Design Cohen (90); Morgeson et al. (99)	30 <b>Presentations*</b>
May 6 <b>Presentations*</b>	7 <b>Presentations*</b> <b>Proposal papers DUE</b>
12 – 16 Final Exam Week  <b>Final Exam Due: Wednesday, May 14<sup>th</sup> by 12 noon</b>	

\* **Note:** If we do not finish the presentations during these class periods, we will meet during our scheduled final exam time (Monday, May 12, 10:10 – 12:10) to complete them.

\* **Note:** These are journal articles for analysis and evaluation adapted from: Patten, M. L. (2002). *Educational and psychological research* (3rd edition). CA: Pyczak Publishing.

## Psychology 523 - Reference List

**Philosophy of science**

Betchel, W. (1988). *Philosophy of science: An overview for cognitive science* (chapter 2, pp. 17-31; chapter 3, pp. 32-49). Hillsdale, NJ: Erlbaum.

Doyal, L. & Harris, R. (1986). *Empiricism, explanation, and rationality: An introduction to the philosophy of the social sciences* (chapter 1, pp. 1-26). London: Routledge & Kegan Paul.

**Research design & methods overview**

Leavitt, F. (2001). *Evaluating scientific research: Separating fact from fiction* (chapter 6; pp. 75-89). New Jersey: Prentice Hall.

**Reliability & validity**

Kline, P. (1993). *The handbook of psychological testing* (chapter 1; pp. 5-14). London: Routledge.

DeVellis, R. F. (1991). *Scale development: Theory and applications* (chapter 3; pp. 24-42). Newbury Park: Sage.

Shadish, W. R., Cook, T. D., & Campbell, D. T. (2002). *Experimental and quasi-experimental designs for generalized causal inference* (chapter 2, pp. 33-63; chapter 3, pp. 64-102). Boston: Houghton Mifflin.

Mook, D. G. (1983). In defense of external invalidity. *American Psychologist*, 38, 379-387.

\*Calhoun, P. S., Sampson, W. S., Bosworth, H. B., Feldman, M. E., Kirby, A. C., Hertzberg, M. A., et al. (2000). Drug use and validity of substance use self-reports in veterans seeking help for Posttraumatic Stress Disorder. *Journal of Consulting and Clinical Psychology*, 68, 923-927.

**Experimental design & causal inference**

Keppel, G. (1991). *Design and analysis: A researcher's handbook* (3<sup>rd</sup> ed.; chapter 1; pp. 3-20). New Jersey: Prentice Hall.

Hsu, L. M. (1989). Random sampling, randomization, and equivalence of contrasted groups in psychotherapy outcome research. *Journal of Consulting and Clinical Psychology*, 57, 131-137.

Shadish, W. R., Cook, T. D., & Campbell, D. T. (2002). *Experimental and quasi-experimental designs for generalized causal inference* (chapter 1, pp. 1-32). Boston: Houghton Mifflin.

\*Dunford, F. W. (2000). The San Diego Navy experiment: An assessment of interventions for men who assault their wives. *Journal of Consulting and Clinical Psychology*, 68, 468-476.

**Quasi-experimentation**

Reichardt, C. S. & Mark, M. M. (1998). In L. Bickman & D. J. Rog (Eds.), *Handbook of applied social research methods* (pp. 193-228). Thousand Oaks, CA: Sage.

\*Russell, W. D. & Hutchinson, J. (2000). Comparison of health promotion and deterrent prompts in increasing use of stairs over escalators. *Perceptual and Motor Skills*, 91, 55-61.

**Small N Designs**

Christensen, L. B. (2000). *Experimental methodology* (8th ed.; chapter 11, pp. 277-303). Boston, MA: Allyn & Bacon.

Morgan, D. L. & Morgan, R. K. (2001). Single-participant research design: Bringing science to managed care. *American Psychologist*, 56, 119-127.

**Survey methods**

Krosnick, J. A. (1999). Survey research. *American Review of Psychology*, 50, 537-567.

Schwarz, N. (1999). Self-reports: How the questions shape the answers. *American Psychologist*, 54, 93-105.

Patrick, J. H., Pruchno, R. A., & Rose, M. S. (1998). Recruiting research participants: A comparison of the costs and effectiveness of five recruitment strategies. *Gerontologist*, 38, 295-302.

O'Neal, M. R. & Chissom, B. S. (1994). Comparison of three methods for assessing attitudes. *Perceptual and Motor Skills*, 78, 1251-1258.

\*Lemieux, R., Parrott, R., & Jones, K. O. (1999). I'm lonely and apprehensive: The presentation of stigmatizing information in personal ads. *Communication Research Reports*, 16, 353-359.

**Qualitative research**

Taylor, S. J. & Bogdan, R. (1998). *Introduction to qualitative research methods: A guidebook and resource* (3<sup>rd</sup> ed.; chapter 1, pp. 3-23). New York: Wiley.

Fischer, L. R. (1994). Qualitative research as art and science. In J. F. Gubrium & A. Sankar (Eds.), *Qualitative methods in aging research* (pp. 3-14). Thousand Oaks, CA: Sage.

Ponterotto, J. G. & Grieger, I. (1999). Merging qualitative and quantitative perspectives in a research identity. In M. Kopala & L. A. Suzuki (Eds.), *Using qualitative methods in psychology* (pp. 47-62). Thousand Oaks, CA: Sage.

\*Falbo, T., Lein, L., & Amador, N. A. (2001). Parental involvement during the transition to high school. *Journal of Adolescent Research*, 16, 511-529.

**Developmental designs**

Schaie, K. W. (1994). Beyond calendar definitions of age, time, cohort: The general developmental model revisited. *Developmental Review*, 6, 252-277.



**Meta analysis**

Cooper, H. M. & Lindsay, J. J. (1998). Research synthesis and meta-analysis. In L. Bickman & D. J. Rog (Eds.), *Handbook of applied social research methods* (pp. 315-337). Thousand Oaks, CA: Sage.

Knight, G. P., Fabes, R. A., Higgins, D. A. (1996). Concerns about drawing causal inferences from meta-analyses: An example in the study of gender differences in aggression. *Psychological Bulletin*, 119, 410-421.

\*Kleiber, C. & Harper, D. C. (1999). Effects of distraction on children's pain and distress during medical procedures: A meta-analysis. *Nursing Research*, 48, 44-49.

**Ethics**

Bersoff, D. M. & Bersoff, D. N. (1999). Ethical perspectives in clinical research. In P. C. Kendall, J. N. Butcher, & G. N. Holmbeck (Eds.), *Handbook of research methods in clinical psychology* (2<sup>nd</sup> ed.; pp. 31-53). New York: Wiley.

Cieurzo, C. & Keitel, M. A. (1999). Ethics in qualitative research. In M. Kopala & L. A. Suzuki (Eds.), *Using qualitative methods in psychology* (pp. 63-75). Thousand Oaks, CA: Sage.

**Reflections**

Cohen, J. (1990). Things I have learned (so far). *American Psychologist*, 45, 1304-1312.

Morgeson, F. P., Seligman, M. E. P., Sternberg, R. J., Taylor, S. E., & Manning, C. M. (1999). Lessons learned from a life in psychological science. *American Psychologist*, 54, 106-116.